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from the base stations and the user equipment units (UEs). Transmitter stations using different PN codes (or a PN code offset in time) produce signals that can be separately demodulated at a receiving station. The high speed PN modulation also allows the receiving station to advantageously generate a received signal from a single transmitting station by combining several distinct propagation paths of the transmitted signal.

Please replace the paragraphs on page 20, beginning at line 3 through line 18 with the following rewritten paragraph:

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Fig. 5A further shows the network (e.g., RNC) sending further measurement control messages such as messages 5A-3 and 5A-5 to the user equipment unit (UE). Both measurement control messages 5A-3 and 5A-5 have command Information elements 6A-3 which indicate that these messages are associated with a command to "MODIFY" the previously sent measurement control message having the same ID. In accordance with the example of Fig. 5A, and as depicted by the shaded IFSU Information elements 6A-9 thereof, the measurement control messages 5A-3 and 5A-5 contain information for updating the virtual active set of base stations. For example, the inter-frequency set update (IFSU) information elements 6A-9 might indicate which particular virtual active set (of possible plural virtual active sets) is to be updated, how that particular virtual active set is to be updated (e.g., a cell added, removed, or replaced), and the CPICH of the cell which is affected by the update. For example, with reference to Fig. 3, whereas the NCL information element 6A-6 of measurement control message 5A-1 might list Cells A - C, the second component of the measurement control messages 5A-3 might (in their IFSU information elements 6A-9) specify that Cell D and Cell E, respectively, are to be added to the first virtual active set.

Please replace the paragraphs on page 21, beginning at line 10 through line 29 with the following rewritten paragraphs:

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28. {ONCE AMENDED} A telecommunications network wherein a user equipment unit (UE), using one of a cell or a current active set of base stations on a first frequency, maintains a virtual active set of base stations on a second frequency and performs a measurement respecting a signal on the second frequency for the base stations of the virtual active set, whereby the user equipment unit (UE) can switch to the virtual active set of base stations when the measurement made at the user equipment unit (UE) so warrants; and wherein the virtual active set of base stations on the second frequency comprises a second network system which differs from a first network system provided on the first frequency.

29. {ONCE AMENDED} The network of claim 28, wherein the network utilizes a frequency quality estimate to determine when the measurement made at the user equipment unit (UE) warrants the switch to the virtual active set of base stations.

30. {ONCE AMENDED} The network of claim 29, wherein the frequency quality estimate is provided by the equation.

$$Q_{carrier\ j} = 10 \cdot \text{Log} M_{carrier\ j} = 10 \cdot \text{Log} \left(W_j \cdot \left(\sum_{i=1}^{N_A} M_{i\ j} \right) + (1 - W_j) \cdot M_{Best\ j} \right)$$

wherein:

$Q_{frequency\ j}$ is the estimated quality of the active set on frequency j;

$M_{frequency\ j}$ is the estimated quality of the active set on frequency j;

M_i is a measurement result of cell i in the active set;

N_A is the number of cells in the active set;

M_{Best} is the measurement result of the strongest cell in the active set;

W is a parameter with the value range 1-0 sent from UTRAN to UE;

W=0 only the measurement results from the best cell on frequency j is used;
and

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W=1 only the sum of the measurement results from the cells in the active set
is used.

31. {UNAMENDED HEREIN} The network of claim 29, wherein the frequency quality estimate is based on two factors: (1) a carrier Radio Signal Strength Indication (RSSI); and (2) whether the Base Transceiver Station Identity Code/Base Station Identifier Code (BSIC) has been confirmed or not.

32. {UNAMENDED HEREIN} The network of claim 29, wherein the network compares the frequency quality estimate to at least one threshold to determine when the measurement made at the user equipment unit (UE) warrants the switch to the virtual active set of base stations.

33. {UNAMENDED HEREIN} The network of claim 32, wherein the at least one threshold is chosen to provide hysteresis protection.

34. {UNAMENDED HEREIN} The network of claim 28, wherein the second network system is universal mobile telecommunications (UMTS) and the first network system is a Global System for Mobile (GSM) system.

35. {UNAMENDED HEREIN} The network of claim 28, wherein the second network system is a system having soft intra-frequency handover and the first network system is universal mobile telecommunications (UMTS).

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36. {ONCE AMENDED} A method of operating a telecommunications network comprising:

a user equipment unit (UE) using one of a cell or a current active set of base stations on a first frequency;

maintaining a virtual active set of base stations on a second frequency;

performing a measurement respecting a signal on the second frequency for the base stations of the virtual active set;

the user equipment unit (UE) switching to the virtual active set of base stations when the measurement made at the user equipment unit (UE) so warrants.

37. {ONCE AMENDED} The method of claim 36, further comprising triggering the measurement made at the user equipment unit (UE) either periodically, immediately, or in response to a predetermined event.

38. {UNAMENDED HEREIN} The method of claim 36, further comprising the user equipment unit (UE) performing and reporting inter-frequency measurements for the second frequency in response to a measurement trigger criteria.

39. {UNAMENDED HEREIN} The method of claim 38, wherein the measurement trigger criteria which causes the user equipment unit (UE) to perform and report inter-frequency measurements for the second frequency is the same criteria which is employed to cause the user equipment unit (UE) to perform and report intra-frequency measurements for the first frequency.

40. {UNAMENDED HEREIN} The method of claim 38, wherein the measurement trigger criteria is one of being periodically, immediate, or in response to a predetermined event.

41. {ONCE AMENDED} The method of claim 36, further comprising, when the measurement made at the user equipment unit (UE) so warrants, the network issuing an

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inter-frequency handover command to the user equipment unit (UE) so that the user equipment unit (UE) switches to the virtual active set of base stations.

42. {UNAMENDED HEREIN} The method of claim 36, further comprising the network providing information regarding the virtual active set of base stations on the second frequency in a measurement control message.

43. {UNAMENDED HEREIN} The method of claim 42, further comprising including the measurement control message in a DCCH control channel.

44. {UNAMENDED HEREIN} The method of claim 42, further comprising including in the measurement control message further one of a measurement parameter to be measured and a predetermined measurement event which triggers a measurement.

45. {UNAMENDED HEREIN} The method of claim 36, further comprising the network providing at least one member of the virtual active set of base stations on the second frequency in a virtual active set update procedure.

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46. {ONCE AMENDED} The method of claim 36, further comprising the network sending the user equipment unit (UE) an authorization message that allows the user equipment unit (UE) to update autonomously the virtual active set of base stations when the measurement made at the user equipment unit (UE) so warrants.

47. {UNAMENDED HEREIN} The method of claim 46, further comprising specifying in the authorization message one of an event or a parameter that can trigger the update of the virtual active set of base stations without the user equipment unit (UE) first having to send a measurement report to the network.

48. {UNAMENDED HEREIN} The method of claim 36, further comprising: maintaining the virtual active set of base stations on the second frequency by a second operator which differs from a first operator which maintains the current active set of base stations on the first frequency.

49. {UNAMENDED HEREIN} The method of claim 36, wherein the virtual active set of base stations on the second frequency comprises a second network system which differs from a first network system provided on the first frequency.

50. {UNAMENDED HEREIN} The method of claim 49, wherein the second network system is universal mobile telecommunications (UMTS) and the first network system is a system having soft intra-frequency handover.

51. {UNAMENDED HEREIN} The method of claim 49, wherein the second network system is a Global System for Mobile (GSM) system and the first network system is universal mobile telecommunications (UMTS).

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52. {ONCE AMENDED} The method of claim 36, further comprising using a frequency quality estimate to determine when the measurement made at the user equipment unit (UE) warrants the switch to the virtual active set of base stations.

53. {ONCE AMENDED} The method of claim 52, wherein the frequency quality estimate is provided by the equation.

$$Q_{carrier\ j} = 10 \cdot \text{Log} M_{carrier\ j} = 10 \cdot \text{Log} \left(W_j \cdot \left(\sum_{i=1}^{N_{Aj}} M_{i\ j} \right) + (1 - W_j) \cdot M_{Best\ j} \right)$$

wherein:

$Q_{frequency\ j}$ is the estimated quality of the active set on frequency j ;

$M_{frequency\ j}$ is the estimated quality of the active set on frequency j ;

M_i is a measurement result of cell i in the active set;

N_A is the number of cells in the active set;

M_{Best} is the measurement result of the strongest cell in the active set;

W is a parameter with the value range 1-0 sent from UTRAN to UE;

$W=0$ only the measurement results from the best cell on frequency j is used;
and

$W=1$ only the sum of the measurement results from the cells in the active set
is used.

54. {UNAMENDED HEREIN} The method of claim 52, wherein the frequency quality estimate is based on two factors: (1) a carrier Radio Signal Strength Indication (RSSI); and (2) whether the Base Transceiver Station Identity Code/Base Station Identifier Code (BSIC) has been confirmed or not.

55. {UNAMENDED HEREIN} The method of claim 52, wherein the network compares the frequency quality estimate to at least one threshold to determine when the measurement made at the user equipment unit (UE) warrants the switch to the virtual active set of base stations.

56. {UNAMENDED HEREIN} The method of claim 55, wherein the at least one threshold is chosen to provide hysteresis protection.